

LESSON 3: Defining Matter

6. List 3 examples of matter and 3 examples of things that are not matter.

Answers Will Vary : Yes: desks, people, elements, compounds
No: ideas, energy, feelings

7. In order to be classified as matter, a substance must have both mass & volume.

8. Classify each of the following as matter or not matter:

a. air : Matter

b. sound : Not Matter

c. dust : Matter

d. atoms : Matter

e. helium : Matter

f. electricity : ~~electricity~~
Not

g. happiness : Not

h. bacteria : Matter

LESSON 4: Mass and Volume

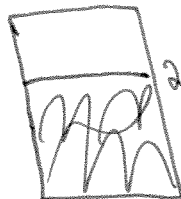
9. a) How is mass measured? What units are used for mass?

Balance : ex. g, mg, kg, lb

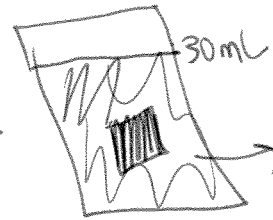
b) How is volume measured? What units are used for volume?

calculated or
w/ graduated
cylinder : mL, L, cm³, m³

10. Water displacement is a process used to measure the Volume of an object. Explain this process and draw a sketch depicting it.



→ Add Object →



Volume
Rises.
Difference
in H₂O is
vol of 5

11. a) A graduated cylinder contains 50.0 mL of water. A piece of metal is placed in the cylinder and the water level rises to 72.0 mL. What is the volume of the object in mL? In cm³?

$$V = 72 - 50 = \boxed{22 \text{ mL}} = \boxed{22 \text{ cm}^3}$$

$$1 \text{ mL} = 1 \text{ cm}^3$$

b) Calculate the volume of a rectangular object with the dimensions of 2.5 cm x 4.5 cm x 4.0 cm

$$V = 2.5 \times 4.5 \times 4.0 = \boxed{45 \text{ cm}^3}$$

12. Draw two things with the same mass, but different volumes.

